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09/487,401	01/19/2000	John R. Shedden	ST9-99-033	3119

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David N Koffsky Esq  
Ohlandt Greeley Ruggiero & Perle  
One Landmark Square Suite 903  
Stamford, CT 06901

EXAMINER

FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 12/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/487,401

Applicant(s)

SHEDDEN, JOHN R.

Examiner

Jean B Fleurantin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Claims 1-18 remain pending for examination.

***Response to Applicant' Remarks***

2. Applicant's arguments, see pages 6-8, filed on September 22, 2003 with respect to the rejection (s) of claims 1-18 under U.S.C. 103(a) have been considered and are moot in view of the reinterpretation of the prior art of record.

During patent examination, the pending claims must be “given \*>their< broadest reasonable interpretation consistent with the specification.” > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).< Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted morebroadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In re Cortright, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

***Specification***

***Claim Objections***

3. Claim 13 is objected to because of the following informalities: line 10, “valuevalue,”. Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,832,515 issued to Ledain et al. ("hereinafter Ledain").

As per claims 1 and 7, Ledain discloses, "a method for enabling improved access to data form a computer memory system during a data recovery operation" (see col. 8, lines 15-19), "said computer memory system having said data in a first log (see figure 2, element 44), and copy of said data in a second log," (see figure 2, element 52) and (cols. 9-10, lines 61-5), the method comprising the steps of:

"responding to a process request to read said data from said first log" (see figure 2, element 44), by determining a parameter indicative of demand for access to read said first log" as at least data that is to be read from selected filesystem nominally maintained on the main filesystem disk 40 is routed through the log device pseudo device driver 44, (see col. 9, lines 19-22);

"wherein said process is one of a plurality of processes concurrently attempting to read said first log during said data recovery operation" as the log device disk 52 will be co-dependant on the concurrent use of the read data path from the log device disk 52 through the log device

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pseudo device driver 44 to the operating system core, (see col. 9, lines 45-50), and column 5, lines 23-26.

Ledain does not explicitly disclose assigning the process to read said copy of said data from said second log if said parameter has reached a threshold value. However, it is well known in the art, that assigning the process to read said copy of said data from said second log if said parameter has reached a threshold value. On the other hand, Ledain discloses once a log disk has reached the filed segment threshold, in which the head of the logical log wraps to the next log disk in sequence, (see col. 29, lines 57-60), and column 30, lines 19-24. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Ledain with steps of assigning the process to read said copy of said data from said second log if said parameter has reached a threshold value. Such modification would allow the teachings of Ledain to improve the accuracy and the reliability of the active log read I/O balancing for log duplexing, and to provide efficient storage and retrieval of data with respect to an operating system executing on a computer system to the data storage system, (see col. 5, lines 38-40).

As per claims 2, 8 and 14, Ledain discloses, “wherein said first log is primary a log” as a log device pseudo-device driver 44 is provided in connection with the operating system core 32 and main disk device driver 34, (see col. 9, lines 10-13).

As per claims 3, 9 and 15, Ledain discloses, “wherein said parameter is a count of said plurality of processes assigned to a primary log” as once a log disk has reached the filled

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segment threshold, in which the head of the logical log wraps to the next log disk in sequence, (see col. 29, lines 57-59).

As per claims 4, 10 and 16, in addition to the discussion in claim 1, Ledain further discloses the step of b) “distributes new process assignments to both the said first log and said second log in an attempt to balance work of the said first and second logs” as the balance of the current data segment may be filled with new data blocks written through the data interface 66 or as a result of cleaning the new log tail data segment, where data blocks are actively being directed through the data interface 66 for storage on the log device, in which the compacted data blocks obtained from the prior log tail data segment may be mixed in order of receipt by the segment 1/O routine 78 into the current segment buffer maintained by the segment 1/O routines 78, (col. 17-18, lines 65-6).

As per claims 5, 11 and 17, in addition to the discussion in claim 1, Ledain further discloses b) “alternates new process assignments to said first log and the said second log in an attempt to balance work of said first and second logs” as the balance of the current data segment may be filled with new data blocks written through the data interface 66 or as a result of cleaning the new log tail data segment, where data blocks are actively being directed through the data interface 66 for storage on the log device, the compacted data blocks obtained from the prior log tail data segment may be mixed in order of receipt by the segment 1/O routine 78 into the current segment buffer maintained by the segment 1/O routines 78, (see cols. 17-18, lines 65-6).

As per claims 6, 12 and 18, Ledain discloses, “wherein said parameter is a count of requests that have been queued to said first log” as once a log disk has reached the filled segment threshold, the head of the logical log wraps to the next log disk in sequence, (see col. 29, lines 57-59).

As per claim 13, Ledain discloses, “a computer system that enables improved access to data form a memory system during a data recovery operation” (see col. 8, lines 15-19), “said memory system having said data in a first log (see figure 2, element 44), and a copy of said data in a second log,” (see figure 2, element 52) and (cols. 9-10, lines 61-5), the method comprising the steps of:

“means for determining a parameter indicative of demand to read said first log” (see figure 2, element 44), by determining a parameter indicative of demand for access to read said first log” as at least data that is to be read from selected filesystem nominally maintained on the main filesystem disk 40 is routed through the log device pseudo device driver 44, (see col. 9, lines 19-22);

“wherein said process is one of a plurality of processes concurrently attempting to read said first log during said data recovery operation” as the log device disk 52 will be co-dependant on the concurrent use of the read data path from the log device disk 52 through the log device pseudo device driver 44 to the operating system core, (see col. 9, lines 45-50), and column 5, lines 23-26.

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Ledain does not explicitly disclose logging means responsive to a process request to read said data from said second log if said parameter has reached a threshold value. However, it is well known in the art, that assigning the process to read said copy of said data from said second log if said parameter has reached a threshold value. On the other hand, Ledain discloses once a log disk has reached the filed segment threshold, in which the head of the logical log wraps to the next log disk in sequence, (see col. 29, lines 57-60), and column 30, lines 19-24. Ledain discloses . It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify logging means responsive to a process request to read said data from said second log if said parameter has reached a threshold value. Such modification would allow the teachings of Ledain to improve the accuracy and the reliability of the active log read I/O balancing for log duplexing, and to provide efficient storage and retrieval of data with respect to an operating system executing on a computer system to the data storage system, (see col. 5, lines 38-40).



***Contact Information***

5. Any inquiry concerning this communication from examiner should be directed to Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on Monday through Friday from 7:30 A.M. to 6:00 P.M.

If any attempt to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Mr. BREENE JOHN E can be reached at (703) 305-9790. The FAX phone numbers for the Group 2100 Customer Service Center are: *After Final (703) 746-7238, Official (703) 746-7239, and Non-Official (703) 746-7240*. NOTE: Documents transmitted by facsimile will be entered as official documents on the file wrapper unless clearly marked "***DRAFT***".

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2100 Customer Service Center receptionist whose telephone numbers are (703) 306-5631, (703) 306-5632, (703) 306-5633.

A handwritten signature in dark ink, appearing to read 'J. Bolte Fleurantin', written over a horizontal line.

Jean Bolte Fleurantin

2003-12-08